What is claimed is:

1. A method of forming an inductor, comprising:

depositing a layer of magnetic material on a germanium substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

depositing a triangular open inductor pattern on the insulating layer and above the

magnetic material layer;

depositing a second non-magnetic insulating layer on the inductor pattern; and

depositing a second magnetic material layer on the second non-magnetic insulating layer and above the open inductor pattern.

2. The method of claim 1, further comprising forming the second non-magnetic insulating layer to include parylene.

3. The method of claim 1, further comprising forming the layer of magnetic material to include iron.

4. The method of 1, further comprising forming the second magnetic material layer to include a NiFe alloy having about 81% Ni and 19%Fe.

5. A method of forming an inductor, comprising:

depositing a layer of magnetic material on a germanium substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a plurality of sandwich structures vertically stacked on the insulating layer, the structures comprising:

an open inductor pattern;

a first non-magnetic insulating layer deposited on the open inductor pattern;

a layer of magnetic material deposited on the first non-magnetic insulating layer;

a second non-magnetic insulating layer deposited on the magnetic material layer; and

forming a conductive path through the plurality of sandwich structures such that each open inductor pattern is serially connected to the inductor pattern above by the conductive path, and such that a current flowing in the serially connected inductor patterns creates a reinforcing magnetic field in the layer of magnetic material between adjacent inductor patterns.

6. The method of claim 5, further comprising forming the layer of magnetic material to include iron.

7. The method of claim 5, further comprising forming the non-magnetic insulating layer to include an inorganic silicon oxide film.

8. The method of claim 5, further comprising forming the open inductor pattern to include gold.

9. A method of forming an inductor, comprising:

depositing a layer of magnetic material on a silicon-on-sapphire substrate;

depositing an insulating layer on the magnetic material layer;

forming a plurality of sandwich structures vertically stacked on the insulating layer, the structures comprising:

an open inductor pattern;

an insulating layer deposited on the open inductor pattern; and

a layer of magnetic material deposited on the insulating layer and above the open

inductor pattern;

an insulating layer deposited on the magnetic material layer; and

forming a conductive path through the plurality of sandwich structures such each of the plurality of sandwich structures connected by the conductive path, and such that a current flowing in the plurality of sandwich structures creates a reinforcing magnetic field in the layer of magnetic material between adjacent inductor patterns.

10. The method of claim 9, further comprising forming the second non-magnetic insulating layer to include polyimide.

11. The method of claim 9, further comprising forming the layer of magnetic material to include iron.

12. The method of claim 9, further comprising forming the second magnetic material layer to include a NiFe alloy.

13. A method of forming an inductor, comprising:

depositing a layer of magnetic material on a substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a substantially circular open inductor in the non-magnetic insulating layer and above the magnetic material layer, the open inductor pattern having an outer edge;

depositing a second non-magnetic insulating layer on the open inductor pattern; and

depositing a second magnetic material layer deposited on the second non-magnetic insulating layer.

14. The method of claim 13, further comprising forming the substantially circular open inductor pattern to include gold.

15. The method of claim 13, further comprising forming the substantially circular open inductor pattern to include aluminum-copper.

16. The method of claim 13, further comprising forming the non-magnetic insulating layer to include silicon dioxide.

17. The method of claim 13, further comprising forming the second non-magnetic insulating layer to include an organic insulator.

18. A method of forming an inductor comprising:

depositing a layer of magnetic material on a substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a circular open inductor pattern in the non-magnetic insulating layer and above the magnetic material layer, the open inductor pattern having an outer edge;

depositing a second non-magnetic insulating layer on the open inductor pattern; and

depositing a second magnetic material layer on the second non-magnetic insulating layer.

19. The method of claim 18, further comprising forming the circular open inductor pattern to include at least one of gold and aluminum-copper.

20. The method of claim 18, further comprising forming the layer of magnetic material to include iron.

21. The method of claim 18, further comprising forming the second non-magnetic insulating layer to include polyimide.

22. The method of claim 18, further comprising forming the second magnetic material layer to include a NiFe alloy having about 81% Ni and 19%Fe.

23. A method of forming an inductor, comprising:

depositing a layer of magnetic material on a silicon-on-sapphire substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a substantially circular open inductor pattern in the non-magnetic insulating layer and above the magnetic material layer;

depositing a second non-magnetic insulating layer on the open inductor pattern; and

depositing a second magnetic material layer on the second non-magnetic insulating layer.

24. The method of claim 23, wherein the second non-magnetic insulating layer comprises parylene.

25. The method of claim 23, further comprising forming the layer of magnetic material to include iron.

26. The method of claim 23, further comprising forming the second magnetic material layer to include a NiFe alloy having about 81% Ni and 19%Fe.

27. A method of forming an inductor, comprising:

depositing a layer of magnetic material on a gallium arsenide substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a substantially circular open inductor pattern in the non-magnetic insulating layer and above the magnetic material layer;

depositing a second non-magnetic insulating layer on the open inductor pattern; and

depositing a second magnetic material layer on the second non-magnetic insulating layer.

28. The method of claim 27, further comprising forming the layer of magnetic material to include iron.

29. The method of claim 27, further comprising forming the non-magnetic insulating layer to include inorganic silicon oxide film.

30. The method of claim 27, further comprising forming the second non-magnetic insulating layer to include polyimide.

31. A method of forming an inductor, comprising:

depositing a layer of magnetic material on a substrate;

depositing a non-magnetic insulating layer on the magnetic material layer;

forming a plurality of sandwich structures vertically stacked on the insulating layer, the structures comprising:

a substantially circular open inductor pattern having an outer edge;

a first non-magnetic insulating layer deposited on the open inductor pattern;

a layer of magnetic material deposited on the first non-magnetic insulating layer;

a second non-magnetic insulating layer deposited on the magnetic material layer; and

forming conductive path through the plurality of sandwich structures such that each open

inductor pattern is serially connected to the inductor pattern above by the conductive path, and such that a current flowing in the serially connected inductor patterns creates a reinforcing magnetic field in the layer of magnetic material between adjacent inductor patterns.

32. The method of claim 31, further comprising forming the layer of magnetic material to include a high permeability ferromagnetic material.

33. The method of claim 31, further comprising forming the open inductor pattern to include a high conductivity material.